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DEVICE FOR THE PRODUCTION OF SHEET GLASS  
[USTROYSTVO DLYA PROIZVODSTVA LISTOVOGO STEKLA]

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## DEVICE FOR THE PRODUCTION OF SHEET GLASS

The invention is related to the production of sheet glass on the surface of molten metal, specifically to devices for separating the edges from a sheet of glass, and it can be used at glass making plants.

A device is known for separating the edges of a sheet of glass based on Author's Certificate No. 576,747, which is shaped in a melt of metal. In this device support plates, which are made of refractory material not wettable by the glass, graphite for example, are placed beneath the cutting disks on the bottom of the bath with the molten metal.

A disadvantage of the device is the rapid local wearing away of the support plates due to their friction against the glass in the cutting area.

The aim of the invention is to increase the service life of the device.

This is achieved by the fact that in the device for production of sheet glass the support plates are made in the form of disks, which are installed on vertical shafts with the possibility of rotating. Moreover, the device is equipped with two supports that are in contact with the bottom of the bath with the molten metal.

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<sup>1</sup> Numbers in the margin indicate pagination in the foreign text.

Figure 1 shows the device in a plane view; figure 2 gives the A-A cross section in figure 1; figure 3 shows the B-B cross section in figure 2.

The device consists of bath 1 with molten metal 2, tray 3 for feeding the glass melt 4, dispensing gate 5, and limiter 6. In the area where the shaped strip of glass 7 reaches equal thickness over the entire width, above flanges 8 of the glass strip one installs drive cutting disks 9 and edge toothed transport rollers 10, which are secured to water cooled shafts 11. The shafts 11 are equipped with an attachment for regulating the depth of the cutting disks 9, made for example in the form of a screw mechanism (not shown). Beneath the edges 8 of the glass strip one installs support disks 12, which are made of refractory unwettable glass material, graphite for example, with the possibility of rotation on vertical shafts (supports) 13 with thrust bearings 14, which together with an additional upright (support) 15 and thrust bearings 16 by means of water cooled holders 17 attached to brackets 18. Above the cut line of the edges of the strip in front of and behind cutting disks 9 heating elements 20 are installed on brackets 19.

The device works in the following manner.

The molten glass melt 4 is fed into bath 1 with molten metal 2 from the glass making furnace along tray 3 onto the surface of the molten metal 2 where it, flowing in a uniform layer between limiters 6, is shaped into a glass strip 7. As it moves along

bath 1, impelled by the action of the pulling force of shafts 21 of the annealing furnace, the strip by its edges 8 passes beneath the local heating elements 20, which also heat the cut line, passes onto the support disks 12 beneath the mutually rotating cutting disks 9 and the edge geared transport rollers 10. The peripheral speed of the cutting disks is ensured by the preferably equal speed of strip movement in the edge trimming zone, and the introduction of cutting disks into the thickness of the plastic strip of glass is performed smoothly by means of the screw mechanism before impact on the surface of the support disks 12 -- the moment of separation of edges 8 from the main strip of glass. After trimming of edges due to the action of the bath temperature and additional heating elements the pieces of the trimmed glass strip are melted, and then the glass strip is cooled and removed from the bath; and the trimmed edges are also removed. Before entering the annealing furnace the trimmed edges of the strip are crushed and returned to the glass making furnace, and the glass strip of predetermined width with melted pieces is sent to the annealing furnace and then to the transverse cutting area in the cold state.

The rotating support disks of the device have increased resistance in comparison with stationary support plates, which increases the service life of the device overall.

#### CLAIMS

1. Device for the production of sheet glass according to Author's

Certificate No. 576,747, distinguished by the fact that in order to increase its service life the support plates are made in the form of disks, which are installed on vertical shafts with the possibility of rotation.

2. Device according to claim 1 distinguished by the fact that it is equipped with two supports, which are in contact with the bottom of the bath with molten metal.

Information sources considered by the examining board include:

1. USSR Author's Certificate No. 576,747, Intl. Clas. C 03 B 18/02, 1975.



